

ing. Occasionally a bushing having a large* outside diameter is required as, for example, when a large counterbore must be used in a small hole, which makes it necessary to have a large opening in the jig body.

Dimensions of Stationary Jig Bushings. • - Standard dimensions for jig bushings, applicable under all circumstances, cannot be given, as these depend, in most cases, on the different conditions of the various classes of jigs in which the bushings are inserted. The common practice is to make the length of the bushing twice the inside diameter of the hole in the bushing for stationary drill bushings. On very small bushings, however, say 1/8 inch diameter hole and less, the length of the bushing will have to be made longer than twice the diameter, while on very large bushings the length may be made somewhat less than twice the diameter. Table I gives proportions of stationary drill bushings. The dimensions, as here given, will be found suitable in all cases where no special conditions demand deviation from ordinary practice. If the jig wait is thin, the bushing may project out as shown in Fig, ^» so as to give the cutting tool the proper guiding and support as close to the work as possible* In Table II are given dimensions for lining bushings, not intended to directly guide the drill, but to hold removable bushings, which, in turn, guide the cutting tools. The dimensions given in Tables I and 11 are for bushings made from either tool steel or machine steel

While it is difficult, in *mmw* cases, to draw a distinct line between stationary drill bushings and lining bushings, it may be said, in general, that the bushings in Table I are used for guiding the drills when drilling holes directly, either with a full-sized drill, when the hole is not required to be very smooth or accurate, or, if greater accuracy is required*, for guiding a spotting drill which fits the bushings exactly, after which the hole is drilled out with a so-called "reamer-drill,** which is 0.010 inch or less under the size of the finished hole, and

finally reamed
••out with a reamer exactly fitting the hole in the
hushing. These
bushings are thus, in general, used when no
tapping or counter-
boring would be required. The lining in Table
II,